

WE CLAIM AS OUR INVENTION:

1. A method for providing a response to a request for information from a client computing system to a server computing system having an output cache for storing portions of web pages corresponding to at least partial responses to previous requests for information, the method comprising:

receiving, at the server computing system, a request for information from the client computing system;

creating a page having portions on the server computing system in response to the received request for information, when the output cache contains a portion of the page, the portion of the page contained in the output cache is retrieved from the output cache and when the output cache does not contain a portion of the page, the portion of the page not contained in the output cache is retrieved from another source; and

sending contents of the created page to the client computing system.

2. The method of claim 1, wherein:

the created page includes a user control, the user control including instructions for obtaining data and an output caching directive for caching output data for the created page,

the step of creating a page further comprises:

determining whether a previous caching result corresponding to at least a portion of the output data of the created page is available from the output cache;

injecting the previous caching result into the page when a previous caching result corresponding to at least a portion of the output data of the created page is available from the output cache;

when a previous caching result corresponding to at least a portion of the output data of the created page is unavailable, the step of creating a page further comprises steps of:

creating a component corresponding to the page control, and  
executing instructions of the component corresponding to the instructions of the user control to obtain the data and the output data;  
rendering the page, the rendering including rendering the component; and  
storing the output data in the output cache.

3. The method of claim 1, wherein the contents of the created page comprises an HTML specification for a web page.

4. The method of claim 2, wherein:  
the created page includes at least one control,  
the step of creating a component includes creating a component corresponding to each respective one of the at least one control, and  
the step of rendering the page comprises rendering each one of the components individually.

5. The method of claim 4, further comprising:

creating a data model including each of the components and a hierarchical relationship among the components, the data model being used during the step of rendering the page to render each of the components.

6. The method of claim 2, wherein the output caching directive includes a time duration during which the output data is permitted to reside in the output cache.

7. The method of claim 6, wherein the output caching directive includes an attribute indicating a condition for varying the output data to be stored in the output cache.

8. The method of claim 7, wherein the attribute indicates that the output data is to be stored in the output cache according to a type of browser used by the client computing system.

9. The method of claim 7, wherein the attribute indicates that the output data is to be stored in the output cache according to values of at least one parameter.

10. The method of claim 1, further comprising providing, on the server computing system, performance counters to monitor output caching performance.

11. The method of claim 10, wherein the performance counters include:

an output cache hit counter to count a number of requests serviced from the output cache; and

an output cache miss counter to count a number of failed output cache requests.

12. The method of claim 10, wherein the performance counters include an output cache turnover rate to count a number of additions and removals to the output cache per second.

13. The method of claim 10, wherein the performance counters include an output cache hit ratio to keep track of a percentage of total requests serviced from the output cache.

14. A machine-readable medium having instructions recorded thereon, such that when the instructions are read and executed by a processor in a computing system connected to a network, the computer system functions as a server computer system and the server computer system performs a method comprising:

receiving, at the server computing system, a request for information from the client computing system;

creating a page having portions on the server computing system in response to the received request for information, when the output cache contains a portion of the

page, the portion of the page contained in the output cache is retrieved from the output cache and when the output cache does not contain a portion of the page, the portion of the page not contained in the output cache is retrieved from another source; and sending contents of the created page to the client computing system.

15. The medium of claim 14, wherein:

the created page includes a user control, the page control including instructions for obtaining data and an output caching directive for caching output data for the created page,

the step of creating a page further comprises:

determining whether a previous caching result corresponding to at least a portion of the output data of the created page is available from the output cache;

injecting the previous caching result into the page when a previous caching result corresponding to at least a portion of the output data of the created page is available from the output cache;

when a previous caching result corresponding to at least a portion of the output data of the created page is unavailable, the step of creating a page further comprises steps of:

creating a component corresponding to the page control, and

executing instructions of the component corresponding to the instructions of the user control to obtain the data and the output data;

rendering the page, the rendering including rendering the component; and

storing the output data in the output cache.

16. The medium of claim 14, wherein the contents of the created page comprises an HTML specification for a web page.

17. The medium of claim 15, wherein:

the created page includes at least one control,

the step of creating a component includes creating a component corresponding to each respective one of the at least one control, and

the step of rendering the page comprises rendering each one of the components individually.

18. The medium of claim 17, further comprising:

creating a data model including each of the components and a hierarchical relationship among the components, the data model being used during the step of rendering the page to render each of the components.

19. The medium of claim 15, wherein the output caching directive includes a time duration during which the output data is permitted to reside in the output cache.

20. The medium of claim 19, wherein the output caching directive includes an attribute indicating a condition for varying the output data to be stored in the output cache.

21. The medium of claim 20, wherein the attribute indicates that the output data is to be stored in the output cache according to a type of browser used by the client computing system.

22. The medium of claim 20, wherein the attribute indicates that the output data is to be stored in the output cache according to values of at least one parameter.

23. The medium of claim 14, further comprising providing, on the server computing system, performance counters to monitor output caching performance.

24. The medium of claim 23, wherein the performance counters include:  
an output cache hit counter to count a number of requests serviced from the output cache; and  
an output cache miss counter to count a number of failed output cache requests.

25. The medium of claim 23, wherein the performance counters include an output cache turnover rate to count a number of additions and removals to the output cache per second.

26. The medium of claim 23, wherein the performance counters include an output cache hit ratio to keep track of a percentage of total requests serviced from the output cache.

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